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# INTERchange

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## Employee Newsletter

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### Director's Column

Now that the legislative session is over, I look forward to spending more time on the other issues facing the department and I want to begin meeting more of the people who keep our state transportation program running.



*Transportation  
Director, Marv Dye*

Within the next month, I plan to visit Billings, Glendive and Great Falls, as well as some area offices, shops and section houses in between. I want to meet the people who work for the department and see some of the roads people are calling and writing about—Terry-Brockway and MT 59 in the Angela area are a few examples.

I recently spent several days in the Kalispell area, met many new people and got a much better handle on the issues we face in that part of the state. That kind of close view is invaluable and there's only one way to get it, so I look forward to seeing much more of the state over the next several months.

The legislative session was a good news-bad news event for the department. On the positive side, a substantially increased maintenance budget and some additional leeway to respond to increased federal funding will result from the seven cent increase in fuel taxes.

We have the "green light" to continue with the transportation agency concept, with exciting things coming up. Programming for statewide transportation needs, exploring transportation corridors and deal-

ing with fuel tax evasion are all issues with meaningful implications for Montana.

It's still not clear where we stand in terms of staffing. My objective in dealing with the cuts we took in the legislature is to look to attrition, retirements, and possibly moving people between positions, and we'll explore all these options before we even consider a reduction in force. In the meantime, I'm proceeding with caution on all hirings.

A more detailed summary of the legislature's actions will be developed over the next several weeks and I'll share that with you when it's done. In the meantime, I hope you'll take some time to read the interesting supplement in this edition of the Interchange highlighting the Environmental and Hazardous Waste Bureau.

**May 1993**

#### ***In This Issue***

Students at the Swan River Elementary decide to adopt a snow plow.

•

Director Dye signs cooperative agreement with the US Forest Service.

•

A special Earth Day Supplement gives a look inside the Environmental and Hazardous Waste Bureau.

•

Billings employees take part in a local college's career day.

### ***Aviation conference held recently in Missoula***

An inspiring program and great weather brought nearly 700 aviation junkies to Missoula for the 1993 Montana Aviation Conference held February 24-27 at the Holiday Inn, said conference coordinator Debbie Alke.

A variety of speakers conducted an extremely interesting mix of seminars and concurrent sessions, she said.

Thirty-three aviation firms filled the exhibit area with interesting displays of the latest in aviation products and services, said Alke.

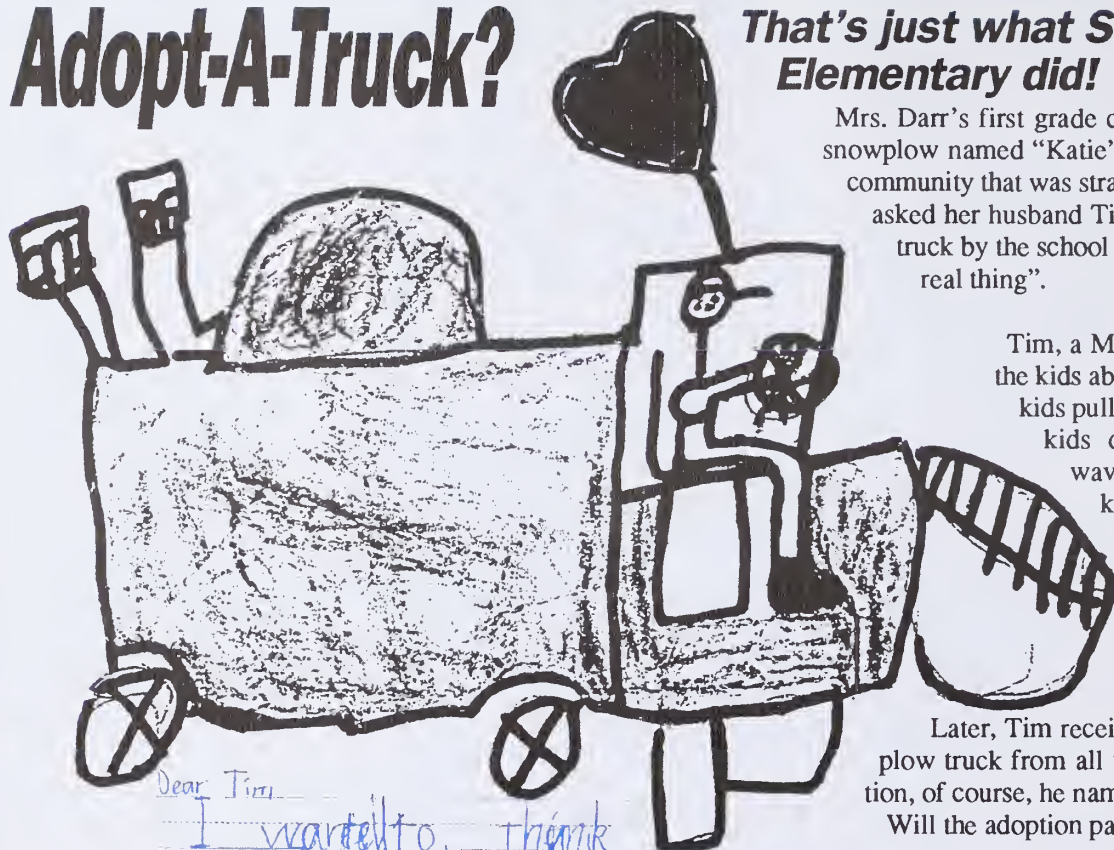
These firms also donated thousands of dollars worth of door prizes which were given away during the Conference.

Many other generous sponsors contributed to events held at the Conference, Alke added.

The Montana Aeronautics Division and Missoula Host Committee would like to extend our sincere thanks to all those who worked so hard to make the 1993 Montana Aviation Conference an outstanding success.

The 1994 Conference will be held February 23-26, 1994 at the Holiday Inn in Billings, and the Billings Committee is already busily planning for that event. We'll plan to see you there!

# Adopt-A-Truck?



Picture and letter by Kayla

## That's just what Swan River Elementary did!

Mrs. Darr's first grade class read a book about a snowplow named "Katie" who apparently saved a community that was stranded by snow. Mrs. Darr asked her husband Tim to bring his state plow truck by the school so her kids could see "the real thing".

Tim, a M.A.P. volunteer, talked to the kids about his "Katie" and let the kids pull the air horn. Tim and the kids developed a "snowplow wave" to help Tim see the kids at the bus stop. Tim shared with the kids how dangerous it was to jump into the snow and ice coming out of Katie's plow.

Later, Tim received drawings of his state plow truck from all the kids with the suggestion, of course, he name her "Katie".

Will the adoption papers follow?

Swan River Elementary School, with 146 students, is celebrating it's 100th birthday this year. The rural school, on MT 83, near the junction with MT 35, has kindergarten through eighth grade and serves the Lower Swan River and Echo Lake communities.

## Kudos to Crocifisso

Bill Salisbury, administrator of the Administration Division, acknowledged and thanked Joe Crocifisso for his outstanding work at a recent Administration Division meeting.

Crocifisso's efforts saved MDT \$40,000 when he was able to procure a used, daylight safe, camera plate-maker for use in the Print Shop.

The camera enables the Print Shop to make photographic plates without a darkroom. Salisbury said, "Atta boy, Joseph!"

## MDT and USFS cooperate

An updated memorandum of understanding (MOU) with the United States Forest Service was signed in January by director Marvin Dye.

The MOU provides guidelines on how the Department of Transportation carries out planning, design, and construction of roads on Forest Land. The current MOU supersedes the memo from 1987, with much more specific language.

According to Edrie Vinson, chief of the Environmental and Hazardous Waste Bureau, the most significant aspect of the current MOU is that the Forest Service has recognized the Department of Transportation's Road Side Design Guide as a specification standard. Prior to this, specification matters were negotiated between the two agencies on a road by road basis.

The MOU is based on a policy of cooperation between the two agencies, and DOT director Marvin Dye has urged employees to keep this in mind. "We're all public servants," Dye commented, "and we must carry out our separate roles with mutual respect, consideration and accommodation."

Vinson advises employees that have not seen a copy of the MOU to ask their respective supervisors for one.





# EARTH *day*

## Interchange Supplement

### **News on environment part of Strategic Plan**

*By Gordon Stockstad*

This Earth Day Supplement is a special opportunity for the Environmental & Hazardous Waste Bureau to introduce its role to the department and how it fits in with MDT's Strategic Plan.

We hope this introduction will also serve to encourage continued communication and education on environmental issues within MDT, other agencies and the public.

Protection of the environment was ranked near the top in the recent MDT Strategic Plan survey indicating that many of us are concerned about the environment.

Consequently, one of the five Strategic Initiatives developed for the Strategic Plan is SI #2: "Develop Environmentally Sensitive Design, Construction and Maintenance Practices." The Environmental & Hazardous Waste Bureau has since taken the

lead with several environmental objectives and related tactics identified during the Strategic Initiative planning phase.

One such Objective is to adopt environmental policies and procedures to ensure the environmental effects of designing, constructing and maintaining highway facilities are addressed in a consistent, efficient and ongoing manner.

The Bureau will be working throughout the coming year to help identify ways in which we can all be more "environmentally friendly".

In part, this will result in a manual of environmentally friendly procedures for design, construction, maintenance and other areas of concern for transportation facilities. We hope all MDT employees will take advantage of this opportunity to assist the Department in being a visible example of environmental responsibility.

If you would like to include your ideas, we encourage you to let your "friendly" thoughts be known to any of us in the Environmental & Hazardous Waste Bureau.

### **Springhill Fountain Restored**

*By Jon Axline*

Thirsty travelers can once again wet their parched throats on the Montana Highway 1 in Deer Lodge County because of the efforts of Tim Harris of Anaconda.

In September, 1930, three Anaconda, Montana, businessmen built the Springhill Fountain on the recently completed Lakes Highway (Highway 1) between Anaconda and Philipsburg. James Gnose, a former state senator and retired merchant, rescued marble and granite blocks from the demolished Margaret Theater in Anaconda. Along with plumber Emil Ulrich and car salesman Frank Osborne, Gnose built the fountain with the blocks salvaged from the theater. When completed, they attached a bronze plaque bearing their names and the date of construction to the imposing structure.

For nearly thirty years the fountain was located on the main road between Anaconda and Philipsburg. In 1957, the Montana Highway Department realigned the

road so that the fountain was bypassed. It continued to serve, however, as a source of fresh drinking water to the local residents.

During the winter of 1991/1992, a vehicle struck the deteriorating fountain, causing extensive damage.

Because of the Springhill Fountain's historical significance and its importance to local residents, Harris proposed to restore the fountain as one of the steps to obtain his Eagle Scout badge.

Ironically, several Anaconda businessmen donated the materials for the project. The Deerlodge National Forest and Montana Department of Transportation (the fountain is still located in the Right-of-



Way) also co-operated with Harris so the historic structure could be rebuilt. The project was completed in June, 1992 and Harris secured his Eagle Scout badge shortly thereafter.

The Springhill Fountain now appears much as it did in 1930 and is providing the same service to travelers on one of Montana's most scenic highways.

# Roadside Vegetation Inventory

By Phil Johnson

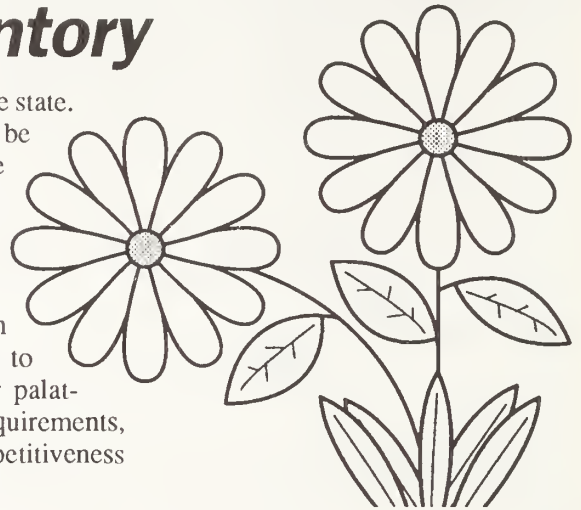
The summer of 1993 will see the start of a new and comprehensive effort to assess and monitor revegetation success along our roadways.

One component of Strategic Plan Initiative II directs MDT to document existing vegetative conditions within the disturbance corridor of MDT right-of-ways.

A summer intern will be hired from Montana State University to assist the two MDT agronomists in conducting this

inventory throughout the entire state. Results of the field work will be used to support or improve upon the present method of formulating revegetation recommendations.

Additionally, information from the survey will be used to identify plant species of low palatability and maintenance requirements, and which also exhibit competitiveness with our major weed species.



## MDT becomes environmentally sensitive

By Mark Traxler

MDT is finally receiving recognition as an environmentally conscious state agency.

The Environmental & Hazardous Waste Bureau has been the catalyst for this change, but other sections within the department deserve recognition for their efforts also.

We in the Environmental & Hazardous Waste Bureau appreciate the cooperation and input given to us by the many individuals in Road Design, ROW, Utilities, Hydraulics, Traffic, Bridge, and Consultant Design to name a few. We also appreciate

the efforts of those at the district level and in the maintenance shops who are helping MDT take a leading role in protecting Montana's natural and cultural resources!

The entire department should be commended for its efforts to protect Montana's Threatened and Endangered Species, Species of Special Concern, and other natural and cultural resources.

The Environmental & Hazardous Waste Bureau would like to take this opportunity to recognize two MDT employees for their outstanding efforts in dealing with environmental issues.

Paul Ferry - Glendive Area Engineer and Karl Helvik - formerly of Hydraulics Section are always willing to work with the Environmental Bureau to promote the Environmental Ethic. In fact, Karl enjoyed working with the Environmental & Hazardous Waste Bureau so much that he recently decided to join us ... Welcome aboard Karl. And hey Paul, maybe your next!

Paul and Karl will receive a Certificate of Appreciation from the department. The Environmental Bureau will periodically honor other individuals in the future, so if you know of someone worthy of this honor, please let us know.

## Missoula District confronts water quality issue

By Julie Glavin

The water quality issue is *big* these days.

And the Missoula district is taking the bull by the horns by addressing one of the next big issues coming down the road—stricter regulations on landfills.

There are hundreds of construction landfills along and underneath our roads which could be put to use and that is just what the Missoula district is doing.

The District, in conjunction with the city/county, developed a plan to route runoff from the near completed Reserve Street project into settling basins—one at the north end and one on the south end of the project.

The basins filter sediment and salts from the runoff before it enters the river and provides for spill prevention/containment.

Things in life are not always so easy. One pond location contained a Class III dump, to contain construction waste only, and

this pond contained elevated levels of toxic petroleum products.

By following existing guidelines for dump closure, and of course, getting the ok with DHES, a new pond system was designed that would isolate the runoff from the dump site. This plan has the same benefits as before with one additional benefit—capping the landfill will insure that surface water will not penetrate the oil saturated zone. This eliminates the potential for a future event of ever having petroleum products discharging into the Bitterroot—from this dump anyway.

At first, the project ran into funding problems and it was likely to be shelved. But with agreement from the city and county for additional funding, the projects is once again underway with good news for everyone, including the environment.

If you happen across a construction landfill, let the Environmental and Hazardous Waste Bureau know; they may want to try and make a beneficial use for it such as the one in Missoula.



# Earth Day ideas to help clean up the planet

By Jennifer Heinz

Earth Day is a day to celebrate life on Earth and to find out how each of us can help our environment. The first Earth Day was April 22, 1970, and celebrations held that day told people all around the country: "We have only one Earth, and we'd better start taking care of it."

Since that first Earth Day, many pro-environmental laws have been passed, but a lot of problems haven't been solved, and some have grown even bigger. Here are some ideas you can use to help make the environment more healthy and healthful.

## Air Pollution

Air pollution is everywhere—even at the North Pole! And many of the causes of this pollution are right around home like your automobile. To help reduce air pollution:

- use cars less. Walk, ride a bike or use public transportation whenever you can,
- keep cars tuned up and have the pollution controls inspected,
- help build bike trails in your area by contacting local bicycling club or parks department,
- don't burn leaves or trash ... recycle them,
- plant trees and shrubs which help clean the air.

## Saving Energy

Electrical power often comes from burning fossil fuels. Digging mines and drilling wells to find these fuels can damage wild places, and burning these fuels pollutes the air, so when you use these tips to save energy, you help save wild places and keep the air clean.

- Turn off lights, TV, etc., when you're not in the room.
- Know what you want before opening the refrigerator so the door is open as short a time as possible.
- If you have central heating and/or air conditioning, turn the thermostat down in the winter and up in the summer, and replace or clean fur-

- nace air filters once a month.
- Fix drafty doors and windows.
- Choose energy-saving models when buying appliances.
- Change light bulbs! You can buy *fluorescent* bulbs that will fit all kinds of lamps, burn ten times longer than regular *incandescent* bulbs and use one-fourth the energy.
- Call your local gas or electric utility company for more energy-saving ideas. Ask if they inspect homes for energy-wasting problems.

## Water Pollution

If you think a nearby stream or waterway needs to be cleaned up, here's what you can do.

- Call the Department of Health and Environmental Sciences (DHES) Water Quality Bureau at 444-2406. They'll test the water for pollution and tell you what needs to be done to clean it up.
- Adopt a stream. The local fish and game officer can get you started with picking up litter, checking water quality, and doing other stream projects. The Izaak Walton League also sponsors a program for people who want to adopt a stream. Their address is: Isaak Walton League, Save Our Streams Program, 1401 Wilson Blvd., Level B, Arlington, VA 22209.
- Use phosphate-free laundry detergent.
- Use fewer pesticides and fertilizers in the garden and on the lawn. They often end up in underground water supplies and waterways.
- Avoid throwing leftover paint, cleaners, pesticides, or other chemicals into the trash. Call the DHES Solid and Hazardous Waste Bureau at 444-2821 to find out if your area has a collection day for toxic household products.
- Recycle used motor oil rather than dumping it on the ground or down storm drains. A small amount of oil can pollute millions of gallons of water.

- Use cat-box litter or sand instead of salt, a potential pollutant, on icy walks.
- If your family has a septic tank, have it inspected to make sure it is working properly. One-third of the septic tanks in the U.S. are polluting water!

## Saving Water

Clean water isn't much good if we don't have enough of it for everyone to use. Here's how you can use less water:

- take short showers instead of baths,
- turn off the water while brushing your teeth,
- fix leaky faucets and toilets,
- run washing machines and dishwashers only when they are fully loaded,
- install water-saving toilets, shower heads and faucets,
- use "gray water" (water that's already been used for baths and for washing dishes) to water plants,
- collect the water that drips out of an air conditioner to use for plants in the garden.

## Trashy Problems

We make too much trash! Landfills are filling up and there's little room to build more. Incinerators can burn trash, but they pollute the air. To make this worse, people throw poisons into the trash that pollute our land, water, and air. Here's how to help clean up.

- Call your local *solid waste office* to find nearby recycling centers for glass, aluminum, newspaper, and plastic.
- Use things more than once. For example, used containers can be for storage.
- Use products durable, lasting products, such as rechargeable batteries.
- Use grass clippings and leaves in the garden.
- Recycle used motor oil.
- Use paper products instead of plastic whenever you can. Plastic takes longer to break down in the environment than paper.

# Fish passage and culverts

By Jon Honeywell

Dear Transportation Workers,

Hi! My name is Mr. Rainbow Trout and I'm writing to you in hopes of enlightening you and your department to the needs of myself and my fellow fish friends.

Our main concern is the increasing difficulty for us to migrate up and down streams in Montana. Some facts that are important to know are, that all fish do not swim or react in the same way to difficulties they encounter in streams in fish passages or culverts. One obvious difference is the type of species.

My cousin, Mr. Brown Trout, is large and powerful and can overcome many more obstacles than my little nephew, Mr. Cutthroat Trout.

Another concern is with our children. Even though we may be able to navigate a culvert, many times our kids are stranded by culverts which have water velocities too fast for them to swim through or the outlet of the pipe is too high for them to jump into and enter.

Much like humans need areas to stop and recuperate on trips, we fish need rest areas too. Rest areas are needed most at the inlet and outlets of culverts. We love it when there is a nice deep pool that we can rest in and gather strength before we enter a culvert and attempt to swim through. A pool on the other side of the culvert is also nice if the velocities in the pipe are fast and we are tired after swimming through the pipe.

The types and size of culverts that you use are also important to us. We, as you can probably guess, prefer a culvert/passage that is as close to the natural stream bed as possible.

Our favorite culvert is the bottomless arch, where the streambed remains natural and is not altered in size. We realize this is not always a practical solution for your road building designs. Box culverts are also used in your construction. These have the advantage of easy baffle placements for reducing water speed.

Circular culverts, the most popular style, have the advantage of providing greater water depth at low flow so passage is possible.

The pipe arch culvert is similar to the circular but is squashed into an elliptical shape for areas where there is not a large amount of headroom and you want the same flows as the circular culvert, however, you want to slow down the velocity through the pipe. All of these designs have advantages and disadvantages associated with them.

There are some criteria we would like you to consider when placing culverts for fish passages. Water velocity is very important to us. We need flows slow enough for all species and ages to be able to swim through.



The depth of the water is also significant. We need depths high enough to swim through at the headwater, inside, and at the tail water of the culverts.

Another measure needed is placement of the culvert where the passage itself is not an obstacle. When the outlet is too high above the stream, we cannot jump into it to continue up the stream. This is called "perching."

Another problem is inlet drops. This is where the inlet of the pipe has a drop off into the culvert which we cannot get passed.

We realize that these measures are expensive, time consuming, and sometimes difficult to design. We also understand that they cannot always be done. We appreciate your efforts in the past and greatly encourage a continued effort to provide us with suitable passages in our streams, both for our benefit and yours.

Thank You  
Mr. Rainbow Trout  
President

Montana's Migrating Fish Association

## Lucky you, you're one of a few

By Edrie Vinson

As a Montanan, your chances of seeing a yellow spring beauty are greater than that of 99.99999% of the people of the world.

No, we're not talking about the neighborhood beauty queens, but a plant, *Claytonia lanceolata* var. *flava*.

Sad but true, most folks will never have a chance to see this delicate specimen. Until recently it was believed to exist in only seven locations world-wide. But thanks to the botanists working for the Forest Service and the National Heritage Program, they have now been found in thirty-three places in Montana.

In addition to northwestern Wyoming

and east-central Idaho, spring beauty has been recorded in Beaverhead, Broadwater, Cascade, Deer Lodge, Gallatin, Granite, Jefferson, Judith Basin, Madison, Meagher, Park, and Sweet Grass counties.

The spring beauty grows in high mountain meadows moistened by snowmelts. The five 1/2 inch yellow petals of the flower appear from April till June.



# Announcements

## Course held

The National Highway Institute course "Project Development and Environmental Documentation" will be held in Helena August 3-5, 1993. MDT staff, consultants, and other state and federal agency personnel are welcome to attend. To reserve a space call Patsy Tompkins at 444-7228.

## Transportation Research Board meeting

The Transportation Research Board (TRB) Committee on Historic Preservation is holding its summer meeting in Polson, Montana May 4-8, focusing on the Intermodal Surface Transportation Efficiency Act (ISTEA) as it relates to Indian Tribes.

More than 200 tribal governments the Bureau of Indian Affairs, the Federal Highway Administration and each of the 50 state departments of highways and transportation are invited to participate. The conference is designed to improve communications between the tribes and responsible agencies.

## Montana hosts Environmental Conference

The KwaTaqNuk Resort on Flathead Lake will be the site for the Federal Highway Administration's Region 8 Environmental Conference scheduled May 11-13. The conference will attract representatives from North and South Dakota, Wyoming, Colorado, Utah, and Montana, as well as Federal Highway Officials.

Topics for discussion include the National Environmental Policy Act, direction for integrating planning and environmental considerations, including evaluating indirect and cumulative effects.

The MDT will present a series of topics on hazardous waste, historic roads and bridges, storm water runoff, and wetlands, other states will also make presentations on items of concern in their area.

For more information on registration, call Patsy Tompkins at 444-7228.

# A Native Montanan

By Edrie Vinson

The Lemhi Beardtongue flowering plant is known only in Montana and Idaho. This sensitive species is one that the June-July traveler in southwestern Montana is likely to see.

Standing 28 inches tall, it has one-inch, bright blue, tube shaped flowers with two lips on the lower side. Beaverhead County has the highest population of Lemhi Beardtongue, with Ravalli historically reporting them, and Silver Bow with two sites on Mount Humburg.

It grows from moderate to high elevations, usually just outside the tree line and in sagebrush and grassy areas.

Such places are often found in MDT right of way, so the flowers are easily seen from the window of your car. Enjoy!

# Hazardous Materials Audits

By Tim Olson

Well, 1992 was a good year for MDT and it's relationship with the environment. A little over 50 MDT employees have conducted 282 assessments at facilities in all five districts throughout the state.

Facilities assessed include 42 maintenance shops, 121 sections sites, 13 airports, eight laboratories, 33 rest areas, 51 stockpile sites and 14 GVW stations. What a feat!

A job well done, and all in one year! A hearty "Thank You" goes out to all those who helped with this commitment to cleaning up our environment.

MDT is now gearing up for the corrective action plan. The auditors will receive updated training this April and get their eight-hour OSHA refresher at the same time.

## Top 10 reasons why the environmental bureau has grown

By Shannon Schultz

10. "Call Guinness! Ohh! Let's set a record"
9. Critters, weeds and other stuff.
8. The timber industry lobbied for MDT to increase its paper consumption.
7. It was really a ploy to test the reaction time of the county fire marshal.
6. There were all these old desks and chairs in the basement's storage and they needed the room.
5. Montana is the forth largest state and Rhode Island has at least 40 environmentalists.
4. President Clinton.
3. "Uh, what? There is an Environmental Bureau now?"
2. "Hey, who cares. As long as they stay in one room."
1. MDT kept losing to Wyoming in the yearly "Name That Lichen Contest" sponsored by the Alliance Against Mosses and Algae.

# Congestion and the Transportation Network

By Jennifer Heinz

Congestion on our streets, highways, and in airports is bad and getting worse at an alarming rate.

Not only does congestion cut transportation operating efficiency, it is also costly: overcrowded roads and airports waste time and energy, generate extra pollution, harm human health, and damage the economy.

The Federal Highway Administration (FHWA) estimates that congestion wastes 1.4 billion gallons of fuel annually, 2 percent of the energy currently used for highway passenger transport, and the US Department of Transportation estimates that congestion costs each driver \$375 annually in extra fuel and maintenance expenses.

According to an FHWA estimate, in just three years, between 1985 and 1988, traffic delays from road congestion increased by 57 percent. By 1987 nearly two-thirds of all interstate roads in urban areas were congested during peak travel times. And the skies are crowded too. The Federal Aviation Administration (FAA) currently considers 16 airports to be congested (operating at over 160 percent capacity).

Congestion is extremely destructive to the environment. The inefficient operation causes—reduced speed, frequent ac-

celeration, stop-and-go movement, and longer trips—increase air pollution and green-house-gas emissions. For example, carbon dioxide emissions double when average speed drops from 30 to 10 m.p.h., and hydrocarbon and carbon monoxide emissions triple at speeds of less than 35 m.p.h. compared with a constant speed of 55 m.p.h.

Traffic congestion is a health hazard. High carbon monoxide concentrations on crowded roads, for example, can restrict oxygen flow to the brain of a driver sitting in traffic, impairing driver performance. Exposure to ozone can cause chest tightness, coughing, headaches, and nausea as well as pulmonary disease, heart disease, and cancer. Aggressive behavior and physiological reactions have also been linked to exposure to congested traffic conditions.

Congestion also jeopardizes US economic vitality. Because it increases the number of accidents, it results in higher labor and vehicle operating costs, also triggering rises in insurance rates. As it slows transport of people and freight, congestion reduces overall productivity, thereby increasing the cost of doing business. By some estimates, crowding on our highways is responsible for a loss of \$73 billion a year to the nation's economy, or 2 percent of GNP.

## Montana Road and bridge history near completion

After nearly two years in the making, the historic roads and bridges histories are nearing completion.

The histories detail the development of Montana's transportation system from its early days in the 1860s to the beginning of the interstate highway era in 1956. Both volumes were written as a result of an agreement between Federal Highways, the State Historic Preservation Office, Advisory Council on Historic Preservation and the MDT.

The roads and bridges histories are profusely illustrated and will be important additions to the growing literature on the subject. The completed manuscripts will be submitted to the printers sometime during the summer of 1993. For more information, contact Jon Axline at 444-6258.

## Hidden transportation costs

By Jennifer Heinz

The major hidden energy and environmental costs attributed to transportation can be evaluated in monetary terms.

These include health-care costs and crop losses attributed to air pollution, costs to militarize the Middle East to protect oil imports, lost economic productivity due to traffic congestion, cleanup costs of oil spills, costs to mitigate greenhouse-gas emissions, and deaths and injuries from traffic accidents.

Together the external costs that can be readily valued range from \$130 billion to \$285 billion a year—as much as \$2.50 per gallon of gasoline, or \$0.15 per mile driven.

Needless to say, none of these “side effect” costs associated with our transportation sector is accounted for in today's price of oil or cost of driving.

## Transportation gobbles energy

By Jennifer Heinz

Transportation consumes roughly 13 million barrels of oil a day. This is nearly three-quarters of US petroleum use and two-fifths of all the energy used in the United States each year.

About two-thirds of the energy that transportation consumes is used directly, as fuel burned in vehicles, and one-third is used indirectly, building and maintaining roads and vehicles and producing the fuel itself.

On this Earth Day, you can pledge to car pool, bicycle, walk, or take public transportation whenever possible. You can make a difference!



# Profile on the Grizzly Bear

By The National Wildlife Federation

Both grizzly bears and people have lived in North America for thousands of years. More than 100,000 grizzly bears once roamed the plains and mountains of western North America from Alaska to Mexico, symbols of true wilderness.

The grizzly bear fascinated Native Americans and became part of their tribal cultures. Rising on its hind legs, the grizzly shared a kinship with people. Even more intriguing to the Native Americans were the qualities in grizzlies which they judged to be superior to those belonging to humans: strength, speed and adaptability.

Grizzlies could travel quickly and quietly, running at speeds up to 25 m.p.h. and swimming with ease. During the long winter months, while Native Americans struggled to find food and keep warm, the grizzly slept in its den and lived off reserves of energy stored from hunting and foraging in summer and early fall.

Grizzlies lived largely unchallenged, as creatures of deep fascination to the Indians, until an increasing human population threatened the bears' existence.

In the 1800s, westward expansion increased the demands on space and natural resources in the West. "Go West, young man," cried Horace Greeley. Settlers had high hopes of a rich life-style. They brought sophisticated weapons and settled on ranches to raise crops and livestock. Grizzly bears threatened this life-style: many were shot, trapped or poisoned to protect the settlers and their livestock. The bears were also killed for their meat and hides.

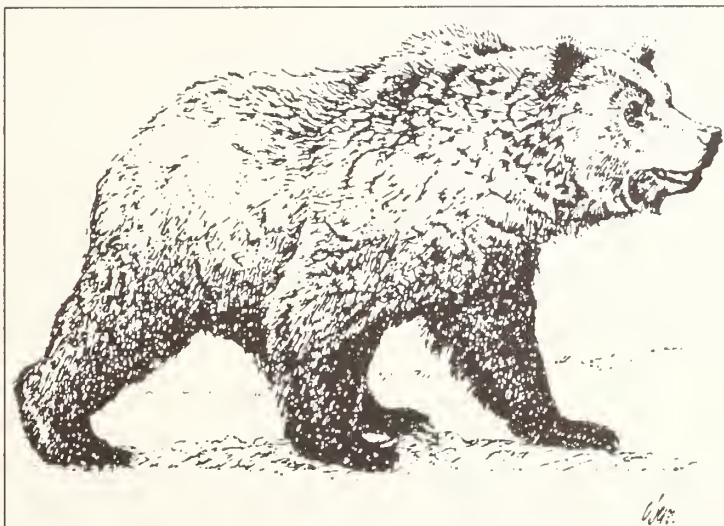
Habitat destruction and human-caused mortality relegated the grizzly bear to the more remote areas of the West, resulting in its eventual extinction in many states. Only Alaska and western Canada still support relatively healthy grizzly bear populations. Researchers estimate that in the continental United States, 800-1,000 grizzly bears currently exist in portions of Idaho, Montana, Washington, and Wyoming, less than 1% of their original numbers and range.

In 1975, the U.S. Fish and Wildlife Service, the federal agency responsible for the conservation of our nation's wildlife, recognized that the number of grizzlies in the contiguous United States appeared dangerously low and listed the grizzly as *threatened* under the Endangered Species Act of 1973.

A *threatened* species is one likely to become endangered if improved habitat and population protection measures are not implemented. Conservation of the grizzly bear became a priority among state and federal wildlife agencies and some private conservation organizations.

In 1980, the U.S. Fish and Wildlife Service began preparing a grizzly bear recovery plan. The recovery plan's objective was to establish viable, self-sustaining populations in areas where grizzly bear populations were found in 1975.

Grizzly bear recovery efforts in the contiguous United States focuses primarily on three areas: 1) the Yellowstone Grizzly Bear Ecosystem, 2) the Northern Continental Divide Ecosystem, and 3) the Cabinet/Yaak Grizzly Bear Ecosystem.



The Endangered Species Act strictly regulates any activities that may negatively impact grizzly bears. These activities include harassment, pursuit, hunting, shooting, killing, trapping, capturing, or collecting grizzly bears.

Exceptions include taking a grizzly in defense of human life, removal of nuisance bears by authorized federal or state employees, and federal or state research activities conducted under the authority of permits issued by the director of the U.S. Fish and Wildlife Service.

The Endangered Species Act mandates that federal agencies manage public lands for the conservation of *threatened* and *endangered* species. Public lands such as national parks and national forests comprise the bulk of grizzly habitat; however, grizzlies also seasonally use other habitats owned by states and private individuals.

Land uses such as livestock production, farming, resource extraction and real estate development continue to threaten the grizzly's future, as do consequences of human/bear conflicts. People have moved into grizzly bear habitat, introduced the bears to human food, and compete with them for land.

Some grizzlies respond by losing their fear of humans and learning to associate food with people. These grizzlies become dangerous and may be moved to other areas or killed to prevent further conflict.

Managers are attempting to decrease human/bear interactions by planning campgrounds away from grizzly use areas, changing the location and design of trails, providing bear-proof garbage cans, and educating the public on how to travel safely in grizzly country.

The extinction of the grizzly bear would mean the loss of a part of our nation's past and, to a certain extent, the disruption of natural cycles in those parts of the country where the grizzly still exists.

Perhaps more significant, however, is the fact that we still have much to learn from the grizzly; for instance, it is believed that knowledge about the mechanism by which the bear slows its bodily processes for winter could be useful in the medical field. For these reasons and myriad others, grizzly bears, despite the problems they sometimes present, are worth far more to us as neighbors than as memories.

# A survey on environmental savvy

The Environmental and Hazardous Waste Bureau is frequently asked questions on these topics by MDT employees. How do you rate?

- In the public involvement process, the public has \_\_\_\_ days to view a Draft EIS before a public hearing is held.  
a. 10 b. 15 c. 30 d. 45
- Under National Environmental Policy Act (NEPA), when a Categorical Exclusion is being written for a project that significantly impacts a fishing access site, it is \_\_\_\_ necessary to have a 4(f) evaluation.  
a. always b. sometimes c. never
- Section 404 of the \_\_\_\_ Act requires that dredged or fill material going into waters of the United States requires a permit.  
a. Pure Hydrology c. Intermodal Surface Transportation & Efficiency b. Clean Water d. National Environmental Policy
- The agency that issues the permit in question #3 is the \_\_\_\_.  
a. Corps of Engineers c. Montana Dept. of Fish, Wildlife, & Parks b. Department of State Lands d. U.S. Fish and Wildlife
- The level of traffic noise that has been found to approach or exceed the noise abatement criteria for schools and residences is \_\_\_\_ dBA.  
a. 59 b. 67 c. 100 d. hardly as loud as what goes on inside
- Categorical Exclusions are actions which do not cause \_\_\_\_ impacts to the environment.  
a. any b. minor c. substantial d. significant
- If a 100 gallons of a Hazardous substance spilled onto MDT's roadways, the EPA would have to be notified within \_\_\_\_.  
a. 8 hours b. 24 hours c. 72 hours d. 5 working days e. any time before they find out
- When a cottonwood tree stands next to a river and is cut, changes occur in the \_\_\_\_.  
a. behaviors of fish b. plant growth c. amount of sun the area receives d. all of the above
- The draft environmental document is \_\_\_\_ supposed to be written before the Public Hearing.  
a. always b. sometimes c. never
- Why should MDT be concerned with the effects of highway projects on land use when local authorities are charged with the responsibility of regulating it?  
a. Rational decisions depend upon the full consideration of these relationships.  
b. Land use and transportation interact in ways that contribute to or detract from national goals and the mobility of people and goods.  
c. Transportation officials are expected to consider the results of the land use impact assessment along with other social, economic, and engineering findings to select the most beneficial alternative.  
d. All of the above.
- If a building or bridge is more than \_\_\_\_ old, it may be eligible to be listed as a Historic property.  
a. 25 b. 50 c. 75 d. 100 e. 1 year past its usable life
- Construction access routes within \_\_\_\_ feet of surface water shall be stabilized by constructing coarse gravel/rock pads at exits to public paved roads to minimize sediment transport (BMP on Erosion Control).  
a. 10 b. 25 c. 50 d. 200
- When a construction activity will result in the disturbance of \_\_\_\_ acre(s) or greater or disturbance of one acre or greater within \_\_\_\_ feet of a surface water body, a permit (Notice of Intent for Storm Water Discharges under the NPDES General permit) will have to be filed with EPA when on tribal lands.  
a. 1; 50 b. 1; 100 c. 5; 50 d. 5; 100
- MDT personnel \_\_\_\_ make(s) the final determination whether or not a site becomes is eligible to be listed on the National Register of Historic Places.  
a. always b. sometimes c. never
- Who approves environmental documents?  
a. FHWA b. EPA c. DSL d. Highway Commission
- Whenever Land and Water Conservation Funds are used to develop a fishing access site that a MDT proposed project will impact, a Section 6(f) (USDoT Act) evaluation is \_\_\_\_ necessary.  
a. always b. sometimes c. never
- It is \_\_\_\_ possible to mitigate an impact to a wetlands on site.  
a. always b. sometimes c. never
- If a 404 permit application is necessary for proposed construction activities, it must \_\_\_\_ must be completed before letting the project to contract.  
a. always b. sometimes c. never
- When a neighboring landowner to an MDT facility believes the facility is contaminating his water supply, the best direction to take is to advise the landowner to have a water sample tested for contamination and to perform a \_\_\_\_ test on the storage tank located on MDT property.  
a. TCLP b. Volatility c. Tank Tightness d. Soil Permeation e. light a match
- Yellow striping paint is a \_\_\_\_ material while being stored for later use, but is a \_\_\_\_ waste when its left over and needing to be disposed.  
a. slippery, nuclear b. hazardous, hazardous c. sticky, volatile d. none of the above

If you score between 16-20 you are an Environmental Staff qualifier.  
10-15 you probably would enjoy a subscription to *National Geographic* magazine.  
5-9 you probably would not enjoy a subscription to *National Geographic* magazine.  
0-4 please call us at 444-7632 if you have any questions.

Answers  
1. d 2. c 3. b 4. a 5. c 6. d 7. e 8. d 9. c 10. d 11. e 12. c 13. b 14. c 15. a 16. a 17. a 18. a 19. d 20. b



# MDT represented at career day

Dull Knife Memorial College of Lame Deer, Montana sponsored their annual Career Day on March 3, 1993. The Montana Department of Transportation participated in the event for the third year.

Over 200 students from area schools were in attendance. Schools present included Lame Deer, Hardin, Colstrip, St. Labre, Busby, Lodge Grass, Wyola and Pretty Eagle.

Representing the Department were Randy Roth, Equipment Operator II from Hardin; Charles Pratt, Assistant Supervisor for MCS out of Billings; Richard Kaufman, MCS Compliance Officer Rover from Billings; Diane Letendre, Billings District Personnel Specialist; and Carole Olson, Glendive Personnel Specialist.

The Department display was provided by Diane Letendre and featured pictures of the various occupations available. Drawings were held through the day with the winner getting a M.A.P. (Maintenance Awareness Program) T-shirt.

Randy Roth brought a snowplow and students were able to sit in the truck and ask Randy questions about his job. The adults were as interested in the snowplow as the students.

Richard Kaufman answered questions and provided students with a chance to look over the MCS patrol car.



Pamphlets from the Maintenance Awareness Program were made available to anyone interested. Teachers and administrators from the area schools were given the phone numbers of the two districts so they can set up a M.A.P. presentation for their students.

## Great Falls District

- **MT 200**, Helmville Jct.-E.
- **S 215**, Kevin E & W
- **S 223**, 16 Mi NW of Fort Benton N
- **S 223**, Liberty County Line
- **S 226**, Great Falls-Eden
- **S 323**, Havre N
- **S 241**, Harlem-Turner
- **S 431**, Power W
- **Great Falls-Central Ave. W**
- **I 15**, Brady N & S
- **Great Falls-Central Ave.W Bridge**

## Missoula District

- **MT 200**, Potomac E.
- **US 2**, NE of Kalispell
- **S 203**, Stevensville NE
- **S 209**, Bigfork SE
- **S 212**, Charlo N & S
- **S 269**, Stevensville W
- **S 38**, Skalkaho Road
- **S 38**, Skalkaho Road
- **S 508**, Meadow Cr. S
- **MT 56**, Bull Lake N
- **US 93** Tobacco R. 3 Mi. NW of Fortine
- **S 354**, Polson S

## Reconstruction and overlay projects approved by the Highway Commission

### Editor's Note:

*This list includes reconstruction and overlay projects awarded from January through March of this year which have already begun or are scheduled in the near future. Several maintenance projects are planned for this season, which we'll recap in the next issue of the Interchange.*

## Glendive District

- **I 94**, Miles City W
- **MT 59**, Jordan S
- **S 242**, Loring N & S
- **S 248**, Scobey W
- **S 254**, Glendive NW
- **S 323**, 8 Mi. S of Ekalaka S
- **MT 59**, Hammond NW
- **S 254**, Richey SE
- **MT 39**, Lame Deer N
- **MT 39**, Colstrip Ints.
- **O'Fallon Cr.**
- **Miles City-N Haynes Ave.**

## Butte District

- **US 12**, Helena W
- **S 273**, Anaconda-Galen
- **S 275**, Deer Lodge Urban
- **S 279**, Montana Ave.-Canyon Creek
- **US 20**, West Yellowstone-Firehole Ave.
- **US 191**, West Yellowstone-Canyon St.
- **S 288**, Manhattan S
- **S 347**, Churchill-Belgrade
- **MT 41**, Twin Bridges-Main St.
- **MT 55**, Whitehall Urban
- **MT 55**, Whitehall Urban
- **MT 41**, Dillon-Atlantic/Helena St.
- **S 278**, Badger Pass E & W
- **I 90**, Three Forks-Manhattan
- **I 90**, Bozeman Hill E & W
- **Bozeman-N 19th Ave. Int.**
- **N 19th Ave. Int.-Baxter Lane**
- **S 259**, Newlan Creek Road

## Billings District

- **MT 47**, 10 Mi. N of Hardin N
- **MT 19**, Grassrange N
- **S 239**, Hobson-Utica
- **S 308**, Red Lodge E
- **S 384**, Big Horn County Line S
- **S 384**, Big Horn County Line N
- **S 421**, Columbus SE
- **Lewistown-Brassey St.**
- **I 90**, West Billings Interchange
- **S 551**, Geyser N
- **MT 39**, Colstrip Ints.

## Service Awards

Service Awards were presented in the following categories:

### 30 years

Jim Trainer

## Retirements

Sylvan Donegon, Twin Bridges, Maintenance Superintendent.  
Leonard Bray, Hall, Truck driver.

Donald Delmonica, Billings, Materials Laboratory Technician.

Melvin Lindgren, Helena, Pilot  
Lars Olsen, Deer Lodge, Equipment Operator.

Charles Ramsey, Maintenance Crew Leader, White Sulphur Springs.

Fred Wanner, Jr., Billings, Gross Vehicle Weight Officer.

Walter Williams, Seeley Lake, Truck Driver.

## Microfilming saves space

The Records Center is a reality! In January, the center started calling for and microfilming completed highway projects.

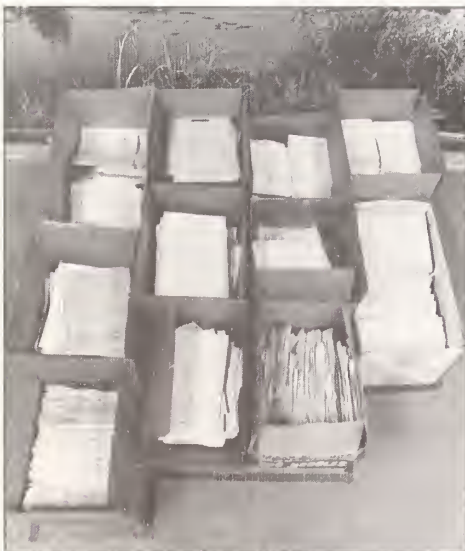
Anyone needing hard copies of microfilmed documents or wanting to view them on the film can do so by contacting the Records Center.

The photos below show the documents that were microfilmed and those that were discarded from the St., Regis-East and West files for the Construction Bureau in the Missoula district, and the Financial Management Bureau. The documents in the left photo were discarded (the boxes are full—the lids are upright). The items in the right print were filmed and discarded afterwards, unless predetermined as permanent documents. Construction tape outlines the same amount of space in both snapshots. There is a difference!

These photos point out the importance of not retaining unnecessary documents. Eliminating needless documents will free up a lot of storage space.

The filmed documents pictured in the right photo consist of five rolls of microfilm. Each roll is stored in a 4"x4"x1" box.

- Microfilm can save up to 98 percent of the space hard copies occupy.
- Overall retrieval speeds and costs are often improved.
- Microfilm makes it possible to store needed documents and data at the users' fingertips.
- Microfilming can protect vital records from disaster, theft and negligence.



## Mail Call

February 15, 1993

I recently had business in Billings and not knowing the location of my motel accommodations, I stopped at the Billings east bound weigh station to ask directions.

What a pleasant and professional greeting I received when I asked Officer Osterman for help. She was engaged in a conversation with an over the road truck driver, the phone had to be answered and 18 wheelers were being weighed while she looked up the address of the motel and explained on a city map how I could reach my destination.

This was accomplished with a big smile, "glad I was able to help", and "have a nice visit".

Truly a great asset to the Department of Transportation and an outstanding employee.

James Racicot  
Libby, MT

## Editor's note:

Watch the next issue of the *Interchange* for an update on the Strategic Plan.

## INTERchange

Employee Newsletter

The employee newsletter is published by the Public Affairs Bureau, Montana Department of Transportation:

*Interchange* staff:  
Sean Seville  
Dennis Unsworth

The following contributed articles for this issue:

Environmental Bureau  
Jo Eschler  
Diane Letendre  
Debbie Alke

Submissions and correspondence should be addressed to:

Public Affairs Bureau  
2701 Prospect Avenue  
PO Box 201001  
Helena, MT 59620-1001  
(406) 444-6200